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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,291	01/16/2002	Ronald J. Wolf	WOR0001.CIP	9107

7590 10/30/2003  
Todd T. Taylor  
TAYLOR & AUST, P.C.  
142 S. Main St.  
P.O. Box 560  
Avilla, IN 46710

EXAMINER
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STRECKER, GERARD R

ART UNIT	PAPER NUMBER
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2862

DATE MAILED: 10/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/050,291

Applicant(s)

WOLF, RONALD J.

Examiner

Gerard Strecker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 4 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-17 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 04 August 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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Claim 4 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 8.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al (4,810,965).

Fujiwara et al discloses (Figs. 12, 13) a position sensor, comprising two magnets (31, 32); a flat ferrous plate 36, having said two magnets located at spaced locations along said plate, and oriented such that one magnet's north pole is directed toward said plate and one magnet's south pole is directed toward said plate; and a magnetic responsive device 15, located proximate said plate, said magnetic flux responsive device closer to the ferrous plate than to either of said magnets. The claim recites a "singular" ferrous plate, whereas the position sensor of Fujiwara et al includes a second plate 34 opposite the first plate. Each plate provides a flux path between the magnets.

It would have been obvious to one skilled in the art, at the time of the invention, to omit one of the ferrous plates in the position sensor of Fujiwara et al, to simplify the structure, reduce the number of parts required, thus reducing the cost of manufacture, and to allow the sensor to be more easily adapted to a particular sensing environment. It is well established that the omission of an element and its function is obvious if the function of the element is not desired. See MPEP 2144.04 II A.

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Further, irrespective of the obviousness of the omission of the second plate from the position sensor of Fujiwara et al, recitation of “a singular ferrous plate” in itself fails to define over Fujiwara et al. Either of the plates of Fujiwara et al may be described as a singular plate and such language does not preclude the existence of a second plate.

With respect to claim 2, although the magnetic flux responsive means 15 of Fujiwara et al is disclosed as comprising a magnetoresistive sensing device rather than a Hall effect device as claimed, it would have been obvious to substitute a Hall effect device for the magnetoresistive device of Fujiwara et al, since it is well known in the art that Hall effect sensors and magnetoresistive sensors are, in most instances, interchangeable as magnetic flux responsive devices, in position sensors.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al in view of White et al (6,018,241, cited in the IDS filed 6/04/02).

Fujiwara et al, discussed above, discloses the structure of claim 3 with the exception of two magnetic flux responsive devices. Fujiwara et al discloses only one magnetic flux responsive device.

White et al discloses (Figs. 1-3 and 7-9) a position sensor including a pair of magnets (34, 36, or 88, 90, e.g.). In one embodiment (Figs. 1 and 7) a single magnetic flux responsive device (40, 96) is provided and in alternate embodiments (Figs. 2, 3, 8 and 9) two magnetic flux responsive devices (40 and 46; 96 and 108 or 108b). With two magnetic flux responsive devices

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separate redundant signals may be provided or the signals may be combined. See col. 5, lines 20-67.

It would have been obvious to one skilled in the art to provide the position sensor of Fujiwara et al with a second magnetic flux responsive device, as taught by White et al. Inclusion of a second magnetic flux responsive device would provide redundancy if the first device malfunctions, or, the outputs of the two devices could be combined to provide a differential response for greater accuracy or to provide directional response capabilities.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication should be directed to G. R. Strecker at telephone number 305-4937.

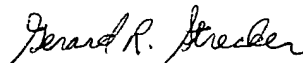
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Strecker/ek

10/28/03

  
GERARD R. STRECKER  
PRIMARY EXAMINER